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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,587	11/21/2003	Takuya Watanabe	55862CIP(46342)	5293

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Edwards & Angell, LLP  
P.O. Box 55874  
Boston, MA 02205

EXAMINER

ULM, JOHN D

ART UNIT PAPER NUMBER

1649

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/719,587

Applicant(s)

WATANABE ET AL.

Examiner

John D. Ulm

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-82 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 16,18,22-27,35,37-44,70 and 76 is/are objected to.
- 8) ☒ Claim(s) See Continuation Sheet are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

Continuation of Disposition of Claims: Claims subject to restriction and/or election requirement are 1-15,17,19-21,28-34,36,45-69,71-75 and 77-82.

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- 1) Claims 1 to 82 are pending in the instant application.
- 2) Claims 16, 18, 22, to 27, 35, 37 to 44, 70 and 76 are objected to under 37 CFR 1.75(c) as being in improper form because a proper multiple dependent claim can not depend from another multiple dependent claim and must depend from other claims in the alternative only. See MPEP § 608.01(n). Accordingly, these claims have not been further treated on the merits.
- 3) Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1 to 7, 20, 21, 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:1, and fragments thereof, classified in class 530, subclass 350.
  - II. Claims 1 to 7, 20, 21, 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:8, and fragments thereof, classified in class 530, subclass 350.
  - III. Claims 1 to 7, 20, 21, 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:14, and fragments thereof, classified in class 530, subclass 350.
  - IV. Claims 1 to 7, 20, 21, 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid sequence

presented in SEQ ID NO:18, and fragments thereof, classified in class 530, subclass 350.

- V. Claims 1 to 7, 20, 21, 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:33, and fragments thereof, classified in class 530, subclass 350.
- VI. Claims 1 to 7, 20, 21, 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:50, and fragments thereof, classified in class 530, subclass 350.
- VII. Claims 8 to 15, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:1, and fragments thereof, classified in class 536, subclass 23.5.
- VIII. Claims 8 to 15, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:8, and fragments thereof, classified in class 536, subclass 23.5.
- IX. Claims 8 to 15, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:14, and fragments thereof, classified in class 536, subclass 23.5.

- X. Claims 8 to 15, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:18, and fragments thereof, classified in class 536, subclass 23.5.
- XI. Claims 8 to 15, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:33, and fragments thereof, classified in class 536, subclass 23.5.
- XII. Claims 8 to 15, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:50, and fragments thereof, classified in class 536, subclass 23.5.
- XIII. Claims 17 and 68, only in so far as they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:1, and fragments thereof, classified in class 530, subclass 388.22.
- XIV. Claims 17 and 68, only in so far as they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:8, and fragments thereof, classified in class 530, subclass 388.22.
- XV. Claims 17 and 68, only in so far as they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in

SEQ ID NO:14, and fragments thereof, classified in class 530, subclass 388.22.

XVI. Claims 17 and 68, only in so far as they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:18, and fragments thereof, classified in class 530, subclass 388.22.

XVII. Claims 17 and 68, only in so far as they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:33, and fragments thereof, classified in class 530, subclass 388.22.

XVIII. Claims 17 and 68, only in so far as they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:50, and fragments thereof, classified in class 530, subclass 388.22.

XIX. Claims 19 and 69, in so far they are drawn to an antisense DNA which is complementary to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:1, and fragments thereof, classified in class 536, subclass 24.5.

XX. Claims 19 and 69, in so far they are drawn to an antisense DNA which is complementary to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:8, and fragments thereof, classified in class 536, subclass 24.5.

- XXI. Claims 19 and 69, in so far they are drawn to an antisense DNA which is complementary to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:14, and fragments thereof, classified in class 536, subclass 24.5.
- XXII. Claims 19 and 69, in so far they are drawn to an antisense DNA which is complementary to to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:18, and fragments thereof, classified in class 536, subclass 24.5.
- XXIII. Claims 19 and 69, in so far they are drawn to an antisense DNA which is complementary to to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:33, and fragments thereof, classified in class 536, subclass 24.5.
- XXIV. Claims 19 and 69, in so far they are drawn to an antisense DNA which is complementary to to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:50, and fragments thereof, classified in class 536, subclass 24.5.
- XXV. Claims 28 to 30 and 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:37, and fragments thereof, classified in class 530, subclass 350.
- XXVI. Claims 28 to 30 and 45 to 59, 62 to 64, 70 to 75, 77 and 78, only in so far as they are drawn to a polypeptide comprising the amino acid



sequence presented in SEQ ID NO:54, and fragments thereof, classified in class 530, subclass 350.

- XXVII. Claims 31 to 34, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:37, and fragments thereof, classified in class 536, subclass 23.5.
- XXVIII. Claims 31 to 34, 65, 66 and 68, in so far as they are drawn to a DNA encoding a polypeptide comprising the amino acid sequence presented in SEQ ID NO:54, and fragments thereof, classified in class 536, subclass 23.5.
- XXIX. Claims 36 and 68, only in so far they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:37, and fragments thereof, classified in class 530, subclass 388.22.
- XXX. Claims 36 and 68, only in so far they are drawn to an antibody which binds to a polypeptide comprising the amino acid sequence presented in SEQ ID NO:54, and fragments thereof, classified in class 530, subclass 388.22.
- XXXI. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid

sequence presented in SEQ ID NO:1, and fragments thereof,  
classification undeterminable.

XXXII. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:8, and fragments thereof, classification undeterminable.

XXXIII. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:14, and fragments thereof, classification undeterminable.

XXXIV. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:18, and fragments thereof, classification undeterminable.

XXXV. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:33, and fragments thereof, classification undeterminable.

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- XXXVI. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:37, and fragments thereof, classification undeterminable.
- XXXVII. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:50, and fragments thereof, classification undeterminable.
- XXXVIII. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that promotes the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:54, and fragments thereof, classification undeterminable.
- XXXIX. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that inhibits the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:1, and fragments thereof, classification undeterminable.
- XL. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution

that inhibits the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:8, and fragments thereof, classification undeterminable.

XLII. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that inhibits the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:14, and fragments thereof, classification undeterminable.

XLIII. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that inhibits the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:18, and fragments thereof, classification undeterminable.

XLIV. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that inhibits the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:33, and fragments thereof, classification undeterminable.

XLV. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that inhibits the activity of polypeptide comprising the amino acid

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sequence presented in SEQ ID NO:37, and fragments thereof,  
classification undeterminable.

XLV. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that inhibits the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:50, and fragments thereof, classification undeterminable.

XLVI. Claims 78 to 82, only in so far as they are drawn to a method of treating by administering a compound of unspecified constitution that inhibits the activity of polypeptide comprising the amino acid sequence presented in SEQ ID NO:54, and fragments thereof, classification undeterminable.

The inventions are distinct, each from the other because:

Inventions I to XLVI relate to forty-six different chemical compounds each of which can be made and used without the others. These forty-six different chemical compounds lack unity of invention because they do not share a common utility which is based upon a single special technical feature lacking from the prior art.

Because these inventions are distinct for the reasons given above and the search required for each of these Groups would not be required for any other Group, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(l).

4) Further, claims 3 to 7, 10 to 15, 17 to 21, 30 to 34, 36, 37, 47 to 75 and 77 to 82 are generic to a plurality of disclosed patentably distinct species of "partial peptide" as articulated, for example, in claims 4 to 6 and 32. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species of partial peptide, even though this requirement is traversed.

Applicant is advised that a reply to this requirement must include an identification of the species of partial peptide that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

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are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John D. Ulm whose telephone number is (571) 272-0880. The examiner can normally be reached on 9:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on (571) 272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'JULM', with a long horizontal stroke extending to the right.

JOHN ULM  
PRIMARY EXAMINER  
GROUP 1800